

LOCAL LISTS OF LEPIDOPTERA FROM THE PUNJAB AND U.P.

BY

D. G. SEVASTOPULO, F.R.E.S.

Rereading back numbers of this Journal recently, I have been struck by the almost complete absence of local lists of Moths. There have been a few records of individual occurrences, usually of economic pests or striking species, but, apart from Col. Mosse's list of the Sphingidae of Kathiawar (Vol. xxxiii, 888), the only local lists from 1924 to date are my two lists of the Calcutta Pyralidae (Vols. xxxviii, 204, and xl, 132) and my very short list of March Lepidoptera at Gopaipur (Vol. xlii, 211).

The Journal of the Darjeeling, now the Bengal Natural History Society contains rather more of these lists, but here again, apart from a serial paper by Col. Scott on the Sphingidae likely to occur in the Darjeeling Hills, the only contributor from 1932 to date is myself. My papers comprise three lists and a supplement of the Moths of Darjeeling (Vols. x, 59; x, 134; xi, 28, and xiii, 91), a list and supplement of the Lepidoptera of Peshoke, December 1936 (Vols. xii, 73, and xiii, 90), a list of the Moths of Calcutta (Vol. xix, 43) and one of the Moths of Tukdah, May/June 1944 (Vol. xx, 20), and I have a further paper on the moths of Tukdah, October/November 1945 and one on a collection of moths from Baberi in the Darbhanga District in course of publication.

In view of this paucity of records, I have been tempted to publish lists of the species in my collection caught in the Punjab and U.P. during my first spell in India. During this period I was stationed in Amritsar from January to November 1925, in Lyallpore from November 1925 to March 1927 and in Cawnpore from November 1927 to March 1929, and made three short trips to the hills, to Murree in September 1925 and August 1928 and to Naini Tal in June 1926.

These lists are unfortunately very far from complete. Apart from the fact that my collecting technique had not been fully adjusted to Indian conditions, I did not realise in those days how little was known of the insects of India, and felt that an amateur, particularly an ignorant one—my only book at that time was Antram's *Butterflies of India*—could produce little work worth publishing. Consequently I kept no records, and the lists given below are compiled from specimens still existing in my collection. It must not be assumed that because a particular species is not mentioned as occurring in, say, Lyallpore, it was not met with there. During the last twenty years or so, many specimens have been discarded or disposed of as duplicates, and also, when an adequate series had been accumulated, further captures were not made.

As mentioned above, these lists are very far from complete, but I think that positive records, however few, are better than no records at all. For this reason I have also included the butterflies. The

lists are given in four sections, Amritsar and Lyallpore together, the two visits to Murree, Cawnpore and Naini Tal.

I have followed Evans's *Identification of Indian Butterflies* (2nd edit.) and Hampson's *Fauna of British India*, Moths, i-iv, as regards classification, modernising them with the aid of Talbot's *Fauna of British India*, Butterflies, i (2nd edit.), Hampson's *Catalogue of the Lepidoptera Phalaenae*, Seitz's *Indo-Australian Lepidoptera* and Bell & Scott's *Fauna of British India*, Moths, v. The numbers before the names correspond with Evans's and Hampson's Fauna numbers, except that I have used the numbers of the Fauna, vol. v, for the Sphingidae with the addition of the initial S.

A. AMRITSAR, JANUARY/NOVEMBER 1925, LYALLPORE,
NOVEMBER 1925/MARCH 1927.

RHOPALOCERA

PAPILIONIDAE

- A 4-25 *Papilio polytes* L., *romulus* Cr.—Common in Amritsar, females of all three forms, *stichius* Hbn., *cyrus* F. and *romulus* Cr., occurring. No Lyallpore specimens, but I am certain it existed there.
A 4-27 *Papilio demoleus* L., *demoleus*—Common at both places.

PIERIDAE

- B 4-10 *Pieris canidia* Sparr., *indica* Evans—Common at Amritsar before the weather gets hot.
B 8 *Anapheis aurota* F., *aurota* (*Belenois mesentina* Cr.)—Common at both Amritsar and Lyallpore.
B 11-1 *Catopsilia crocale* Cr.—Common at Amritsar, no Lyallpore specimens but it almost certainly occurred there.
B 11-2 *Catopsilia pomona* F.—Common at both places.
B 11-4 *Catopsilia pyranthe* L., *minna* Herbst.—Common at Amritsar, no Lyallpore examples but almost certainly occurred there.
B 11-5 *Catopsilia florella* F., *gnoma* F.—One Amritsar specimen.
B 15-2 *Eurema (Terias) laeta* Bsd., *laeta*.—Two from Amritsar.
B 15-5 *Eurema (Terias) hecabe* L., *fimbriata* Wall.—Common at both places.
B 16-9 *Colias erate* Esp., *erate*.—Common in Amritsar during the early part of the year. Also forms *glicia* Fruhs. and *pallida* Stg.
B 16-14 *Colias electo* L., *fieldii* Men.—Common at Amritsar in the early part of the year.
B 18-1 *Colotis amata* F., *amata*—Common at Lyallpore.
B 18-2 *Colotis protractus* Btlr.—One from Lyallpore.
B 18-3 *Colotis vestalis* Btlr.—Common at Lyallpore.
B 18-5 *Colotis etrida* Bsd., *etrida*.—Two from Amritsar and one from Lyallpore.

DANAIDAE

- C 2-9 *Danaus limniace* Cr., *mutina* Fruhs.—Uncommon at Amritsar.
C 2-15 *Danaus chrysippus* L.—No specimens from either place, but was certainly common at Amritsar and, I think, at Lyallpore also.
C 3-7 *Euploea core* Cr., *core*.—Common at Amritsar, also one example of *vermiculata* Btlr. No Lyallpore specimens and I do not remember it there.

SATYRIDAE

- D 14-2 *Ypthima inica* Hew.—Common at Amritsar, all f. *ariaspa* Moore, the wet season form.
D 22-1 *Melanitis leda* L., *ismene* Cr.—Fairly common at both places, all the wet season form *determinata* Btlr.

NYMPHALIDAE

I have no specimens at all of this family from Lyallpore, although I think it probable that the *Precis* species found in Amritsar also occurred at Lyallpore.

- F 18-14 *Euthalia garuda* Moore, *anigama* Fruhs.—Common at Amritsar.
 F 30- 1 *Hypolimnas misippus* L.—Fairly common at Amritsar.
 F 30- 2 *Hypolimnas bolina* L.—Fairly common at Amritsar.
 F 35- 2 *Precis orithya* L., *swinhoei* Btlr.—Common at Amritsar.
 F 35- 3 *Precis lemonias* L., *persicaria* Fruhs.—Common at Amritsar.
 F 35- 4 *Precis almana* L., *almana*—Common at Amritsar.
 F 36- 1 *Vanessa cardui* L.—Common at Amritsar in the cold weather.
 F 42- 1 *Atella phalanta* Drury.—Fairly common at Amritsar.

LYCAENIDAE

I have no specimens of this family from Lyallpore, but *C. boeticus* almost certainly occurred, even if nothing else did.

- H 12- 9 *Tarucus nara* Koll.—Amritsar, fairly common.
 H 24- 4 *Zizeeria lysimon* Hbn.—One specimen from Amritsar.
 H 25- 1 *Euchrysope cnejus* F.—Fairly common at Amritsar.
 H 28 *Cosmolyce (Lampides) boeticus* L.—Very common at Amritsar.

HESPERIIDAE

- I 91- 2 *Astycus pythias* Mab., *bambusae* Moore.—Two Amritsar specimens.

HETEROCERA

The rather better showing of moths at Amritsar in comparison with Lyallpore is due, I think, to the fact that, whilst Amritsar had electric light, Lyallpore had nothing but oil-lamps.

SYNTOMIDAE

- 412 *Amata (Syntomis) cysea* Cr. ab. *georgina* Btlr.—Three from Amritsar.
 455. *Eressa (Syntomis) confinis* Wlk.—Common at Amritsar.

ARCTIIDAE

- 1153 *Aganais (Hypsa) ficus* F.—One from Amritsar.
 1155 *Digama hearseyana* Moore.—One from Amritsar.
 1232 *Anisacta (Creatonotus) moerei* Btlr.—Two from Amritsar.
 1235 *Anisacta (Creatonotus) lactinea* Cr.—One from Amritsar.
 1231 *Creatonotus gangis* L. (*interruptus* Gmel.)—Fairly common at Amritsar.
 1279 *Utelheisa (Deiopia) pulchella* L.—One from Amritsar.

LYMANTRIIDAE

- 982 *Laelia exclamatoris* Koll.—Three from Amritsar.

EUPTEROTIDAE

- 68 *Eupterote undata* Blanch.—Common at Amritsar.

SPHINGIDAE

- S 2 *Acherontia styx* Westw.—One from Amritsar.
 S 3 *Herse convolvuli* L.—Common at Amritsar. A rather smaller and paler form than that from Bengal.
 S 8 *Psilogamma menephron* Cr., ab. *vales* Btlr.—One from Amritsar.
 S 78 *Deilephila nerii* L.—Two bred from ova from Lyallpore.
 S 109 *Nephele didyma* F.—Common at Amritsar. Also f. *hespera* F.
 S 144 *Rhopalopsyche nycteris* Koll., *nycteris*.—Two from Amritsar.
 S 148 *Celerio lineata* F., *livornica* Esp.—One from Lyallpore
 S 151 *Hippotion celerio* L.—Fairly common both at Amritsar and Lyallpore.

NOCTUIDAE

- 2017 *Tarache lucida* Hufn.—Fairly common at Amritsar.
 2630 *Enmonodia shiva* Guen.—One from Amritsar.
 2629 *Speiredonia retorta* L.—Fairly common at Amritsar.
 2507 *Parallelia mirabilis* Staud.—One from Amritsar.
 2575 *Chalciope hyppasia* Cr.—One from Amritsar.
 2664 *Phylometra nigrisigna* Wlk.—Two from Lyallpore.
 2678 *Phylometra orichalcea* F.—Two from Lyallpore.

GEOMETRIDAE

- 3357 *Buzura suppressaria* Guen.—Fairly common at Amritsar.

B. MURREE, SEPTEMBER 1925 AND AUGUST 1928,

RHOPALOCERA

PAPILIONIDAE

- A 4-29 *Papilio machaon* L., *asiatica* Men.—Fairly common in 1925.

Although I now have no specimens of any *Polydorus* from Murree I am fairly confident that one species, probably *P. philoxenus* Gray, *philoxenus*, was fairly common.

PIERIDAE

- B 4-7 *Pieris napi* L., *ajaka* Moore—Fairly common in 1928.
 B 4-10 *Pieris canidia* Sparr., *indica* Evans—common on both visits.
 B 4-11 *Pieris brassicae* L., *nepalensis* Dbl.—Common in 1925, no specimens in 1928.
 B 14-1 *Gonepteryx rhanni* L., *nepalensis* Dbl.—Common on both occasions.
 B 14-3 *Gonepteryx mahaguru* Gistel, *mahaguru* (*aspasia* Men., *zaneku* Moore).—One in 1925.
 B 16-14 *Colias electo* L., *fieldii* Men.—Common on both visits.

SATYRIDAE

- D 4-2 *Pararge schakra* Koll.—Common on both visits.
 D 11-3 *Aulocera swaha* Koll., *swaha*—Common both times.

NYMPHALIDAE

- F 25-8 *Pantoporia opalina* Koll., *opalina*—Common on both occasions.
 F 26-6 *Neptis hylas* L., *astola* Moore—Common in 1925. One *varmona* Moore in 1925.
 F 36-1 *Vanessa cardui* L.—Common in 1925.
 F 36-4 *Vanessa canace* L., *himalaya* Evans—Two in 1925.
 F 36-10 *Vanessa cashmirensis* Koll., *cashmirensis*—Common on both occasions.
 F 39-2 *Argynnis childreni* Gray, *sakontala* Koll.—One in 1925.
 F 39-3 *Argynnis kamala* Moore—One in 1925.
 F 39-8 *Argynnis iathonia* L., *issoea* Dbl.—Fairly common in 1925.
 F 42 *Ateila phalanta* Drury—Fairly common in 1928.

ERYCINIDAE

- G 1-2 *Libythea lepita* Moore, *lepita*—Two in 1928.
 G 3-1 *Dodona durga* Koll.—Fairly common in 1925.
 G 3-3 *Dodona eugenes* Bates, *eugenes*—Two in 1925.

LYCAENIDAE

- H 14-2 *Azanus uranus* Btlr.—One in 1928.
 H 21-13 *Lycaenopsis vardhana* Moore—One in 1925.
 H 21-22 *Lycaenopsis huegelii* Moore, *huegelii*—Fairly common in 1928.
 H 22-27 *Polyommatus eros* O., *pseuderos* Moore—Fairly common both in 1925 and 1928.
 H 34-2 *Lycaena phlaeas* L., *indicus* Evans—Fairly common in 1928.
 H 35-1 *Heliophorus sena* Koll.—Fairly common in 1928.

- H 83- 1 *Deudoryx epijarbas* Moore, *ancus* Fruhs.—Uncommon on both visits.
 H 85-20 *Rapala micans* Brem., *selira* Moore—Not uncommon in 1923.

HETEROCERA

ZYGAEINIDAE

- 473 *Epizygaena cashmirensis* Koll.—Common in 1925.
 525 *Eterusia pulchella* Koll.—Common in 1925, ♂ f. *leptalina* Koll.,
 ♀ f. *cicada* Fldr.
 602 *Agalope hyalina* Koll.—One in 1928.

ARCTIIDAE

- 1179 *Diacrisia casigneta* Koll.—One in 1928.
 1190 *Diacrisia unifascia* Wlk.—One in 1928.
 1218 *Diacrisia leopardina* Koll.—One in 1928, determination not absolutely certain.

LYMANTRIIDAE

- 1033 *Lymantria concolor* Wlk., *superans* Wlk.—One in 1925.
 1077 *Euproctis guttata* Wlk.—One in 1928.

DREPANIDAE

- 699 *Macrocilix mysticata* Wlk.—One in 1928.

SATURNIIDAE

- 1 *Actias selene* Hbn.—One in 1925.

SPHINGIDAE

- S 149 *Pergesa elpenor* L., *rivularis* Btlr.—One in 1928.

GEOMETRIDAE

- 3879 *Scopula cleoraria* Wlk.—One in 1928.

C. CAWNPORE, NOVEMBER 1927 TO MARCH 1929

RHOPALOCERA

PAPILIONIDAE

I have no Cawnpore specimens of any *Papilio*, but it is almost certain that both *P. polytes* and *P. demoleus* occurred.

PIERIDAE

- B 1 *Leptosia nina* F., *nina*.—Not common.
 B 6- 1 *Delias eucharis* Drury.—One only.
 B 8 *Anapheis aurata* F., *aurata*.—Fairly common.
 B 9- 2 *Cepora (Huphina) nerissa* F., *phryne* F.—Fairly common.

I have no Cawnpore specimens of either *Catopsilia* or *Eurema*, but it is almost certain that at least *C. crocale*, *C. pomona*, *C. pyranthe* and *E. hecabe* occurred.

DANAIDAE

- C 2-12 *Danaus plexippus* L.—One example.
 C 2-15 *Danaus chrysippus* L.—Common.
 C 3- 7 *Euploea core* Cr., *core*.—Almost certainly occurred, but I have no specimens.

SATYRIDAE

- D 22- 1 *Mcianitis leda* L., *ismene* Cr.—Fairly common.

NYMPHALIDAE

- F 30- 1 *Hypolimnas misippus* L.—Fairly common.
 F 35- 1 *Precis hierta* F., *hierta*.—Common.
 F 35- 2 *Precis orithya* L., *swinhoei* Btlr.—Common.
 F 35- 3 *Precis lemonias* L., *vaisya* Fruhs.—Common.
 F 35- 4 *Precis almana* L., *almana*.—Common.

ERYCINIDAE

- G 4- 5 *Abisara echerius* Sto'l., *suffusa* Moore.—Uncommon.

LYCAENIDAE

- H 12- 9 *Tarucus nara* Koll.—Common.
 H 13 *Syntarucus plinius* F.—Common.
 H 24- 1 *Zizeeria trochilus* Frr., *pulli* Koll.—Common,
 H 24- 3 *Zizeeria maha* Koll., *maha*.—Common.
 H 24- 4 *Zizeeria lysimon* Hbn.—Common.
 H 24- 5 *Zizeeria gaika* Trim.—Common.
 H 24- 6 *Zizeeria otis* F., *decreta* Btlr.—Common.
 H 28 *Cosmolyce beeticus* L.—Common.

HESPERIIDAE

- 1 47- 1 *Suastrus gremius* F., *gremius*.—Fairly common.

HETEROCERA

ARCTIIDAE

- 1155 *Digama hearseyana* Moore.—One.
 1232 *Amsacta moorei* Btlr.—One.
 1239 *Amsacta lineola* F. (*Creatonotus emittens* Wlk.)—One.
 1279 *Uletheisa pulchella* L.—One.

SPHINGIDAE

- S 109 *Nephele didyma* F.—Fairly common, also f. *hespera* F.
 S 151 *Hippotion celerio* L.—Fairly common.

LIMACOLIDAE

- 859 *Parasa lepida* Cr.—One.

NOCTUIDAE

- 1622 *Euxoa spinifera* Hbn. (*Agrotis biconica* Koll.)—Fairly common
 1913 *Sideridis unipuncta* Haw.—Common
 1601 *Chloridea obsoleta* F. (*Heliothis armigera* Hbn.)—One.
 2516 *Anna* (*Ophiusa*) *tirrhaca* Cr.—One.
 2505 *Parallelia* (*Ophiusa*) *algira* L.—One.
 2573 *Mocis undata* F. (*Remigia archesia* Cr.)—One.
 2532 *Serrodus campana* Guen. (*inara* Cr.)—One.

GEOMETRIDAE

- 3279 *Hyperythra lutea* Guen.—One.

YRALIDAE

- 4813 *Ercta ornatalis* Dup.—One in February 1934.
 5073 *Leucinodes orbonalis* Guen.—One in February 1934.
 5150 *Nomophila noctuella* Schiff.—One in February 1934.

D. NAINI TAL, JUNE 1926.

RHOPALOCERA

PAPILIONIDÆ

- A 2-16 *Polydorus dasarada* Moore, *ravana* Moore.—One.

PIERIDÆ

- B 4-10 *Pieris canidia* Sparr., *indica* Evans.—Common.
 B 5-2 *Aporia leucodice* Ev., *sara* Evans.—Common.
 B 5-5 *Aporia agathon* Gray, *ariaca* Moore.—Common.
 B 14-1 *Gonepteryx rhanni* L., *nepalensis* Dbl.—Fairly common.

DANAIDÆ

- C 2-1 *Danus aglea* Cr., *melanoides* Moore.—Fairly common.

SATYRIDÆ

- D 3-3 *Lethe sidonis* Hew., *sidonis*—Common.
 D 3-44 *Lethe verma* Koll., *verma*—Common.
 D 3-50 *Lethe yama* Moore, *yama*—Two.
 D 4-1 *Pararge schakra* Koll.—Common.
 D 13-4 *Erebia nirmala* Moore, *nirmala*—Common.
 D 14-4 *Ypthima nareda* Koll., *nareda*—Common.
 D 14-21 *Ypthima sakra* Moore, *nikoea* Moore.—Common.

NYMPHALIDÆ

- F 2-7 *Eriboea dolon* Westw., *dolon*—Three, all drowned in the lake.
 F 9-1 *Sephis dichroa* Koll.—Two.
 F 18-26 *Euthalia patala* Koll., *patala*—Common.
 F 25-8 *Pantoporia opalina* Koll., *opalina*—Fairly common.
 F 26-2 *Neptis yerburyi* Bltr., *yerburyi*—Not uncommon.
 F 26-6 *Neptis hylas* L., *astola* Moore.—Common.
 F 26-23 *Neptis narayana* Moore, *narayana*—One.
 F 27-4 *Thyrestis thyodamas* Bsd., *ganescha* Koll.—Common.
 F 36-4 *Vanessa canace* L., *himilaya* Evans.—Fairly common.
 F 39-3 *Argynnis childreni* Gray, *childreni*—Fairly common.

ERVCINIDÆ

- G 3-1 *Dodona durga* Koll.—Fairly common.
 G 3-2 *Dodona dipoca* Hew., *nostii* Fruhs.—Fairly common.

LYCAENIDÆ

- H 34-2 *Lycaena phlaeas* L., *inticus* Evans.—Fairly common.
 H 34-1 *Lycaena pavana* Koll.—Two.
 H 35-1 *Heliophorus sena* Koll.—Common.
 H 49-65 *Archopala (Amblypodia) ganesa* Moore, *ganesa*—Three.

HETEROCERA

ZYGAENIDÆ

- 586 *Campylotes histrionicus* Westw.—One.

SYNTOMIDÆ

- 411 *Amata (Syntomis) bicincta* Koll.—Common.

ARCTIIDÆ

- 1179 *Diacrisia casigneta* Koll.—Fairly common.
 1218 *Diacrisia leopardina* Koll.—Two.
 1215 *Estigene (Alphaea) imbuta* Wik.—Two.
 1216 *Estigene (Alphaea) quadriramosa* Koll.—One.
 1229 *Pericallia (Arcas) imperialis* Koll.—One.

LYMANTRIIDAE

1011 *Dasychira bhana* Moore—Common.

EUPTEROTIDAE

69 *Eupterote fabia* Cr.—Fairly common.

BRAHMAEIDAE

32 *Brahmaea willichii* Gray—Fairly common.

SPHINGIDAE

- S 32 *Clanis deucalion* Wlk.—One.
 S 70 *Haemorrhagia sandersi* Wlk.—One.
 S 84 *Ampelophaga rubiginosa* Brem., *fasciosa* Moore—One.
 S 118 *MacroGLOSSUM bombylans* Bsd.—One.
 S 155 *Theretra nessus* Drury—Fairly common.
 S 164 *Theretra oldenlandiae* F.—One.
 S 178 *Rhagastis albomarginatus* Roths.—Not uncommon.

NOTODONTIDAE

1049 *Gazalina chrysolopha* Koll.—Fairly common. (N.B.—This species is not a Lymantriid.)

NOCTUIDAE

- 1968 *Diphtherocome discibrunnea* Moore—One.
 1726 *Euplexia semifascia* Wlk., *cuprea* Moore—One.
 2408 *Nyctipao glaucopis* Wlk.—Not uncommon.
 2646 *Calpe ophideroides* Guen —Common.

GEOMETRIDAE

3516 *Abraxas sylvata* Scop.—One.

METHODS OF COLLECTION AND HATCHING OF CARP OVA IN
 CHITTAGONG WITH SOME SUGGESTIONS FOR THEIR
 IMPROVEMENT

BY

NAZIR AHMAD, M.SC. (HONS.), Ph.D., F.R.S.,

Deputy Director of Fisheries, East Bengal

(With 5 text figures)

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